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EXPRESS MAIL CERTIFICATE

Date 3/27/01 Label No. E2853597777-US
I hereby certify that, on the date indicated above, this paper or
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07278

PATENT TRADEMARK OFFICE

Docket No.: 6727/01307US0

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

RECEIVED
MAR 29 2001
Technology Center 2100

In re application of:

Emek, Roy et al.

Serial No.: 09/788,152

Filed: February 16, 2001

For: HYPER-ARC CONSISTENCY IN CONSTRAINT SATISFACTION
NETWORK

March 27, 2001

INFORMATION DISCLOSURE STATEMENT

Hon. Commissioner of
Patents and Trademarks
Washington, DC 20231

Sir:

This Information Disclosure Statement is submitted in accordance with
37 C.F.R. 1.97, 1.98, and it is requested that the information set forth in this
statement and in the listed documents be considered during the pendency of the

above-identified application, and any other application relying on the filing date of the above-identified application or cross-referencing it as a related application.

1. This IDS should be considered, in accordance with 37 C.F.R. 1.97, as it is filed:

(Check one of the boxes A-D)

☒ A. Within three months of the filing date of the above-identified national application or within three months of the entry into the national stage of the above-identified international application.

☐ B. before the mailing date of a first office action on the merits, or a first office action after filing a request for continued examination.

☐ C. after (A) and (B) above, but before the mailing date of a final rejection, a notice of allowance, or any other action that closes prosecution, and Applicants have made the necessary statement in box "i" below or paid the necessary fee in box "ii" below.

(check one of the boxes "i" and "ii" below:)

☐ i. Counsel states that, upon information and belief, each item of information listed herein was either (a) cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS; or (b) was not cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of undersigned after making reasonable inquiry, was not known to any individual designated in 1.56(c) more than

Docket No. 6727/01307US0

three months prior to the filing of this IDS.

☐ ii.11. A check for the fee set forth in 1.17(p), presently believed to be \$180, is enclosed.

☐ D. after (A), (B) and (C) above, but before payment of the issue fee: Counsel states that, upon information and belief, each item of information listed herein was either (i) cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the IDS; or (ii) was not cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the undersigned after making reasonable inquiry, was not known to any individual designated in 1.56(c) more than three months prior to the filing of this IDS.

☐ i. A check for the fee set forth in 1.17 (p), presently believed to be \$180, is enclosed.

2. In accordance with 37 C.F.R. 1.98, this IDS includes a list (e.g., form PTO-1449) of all patents, publications, or other information submitted for consideration by the office, either incorporated into this IDS or as an attachment hereto. A copy of each document listed is attached, except as explained below.

(check boxes A and/or B and fill in blanks, if appropriate.)

☐ A. Document(s) _____ is (are) deemed substantially cumulative to document(s) _____, and, in accordance with 1.98(c), only a copy of each of the latter documents is enclosed.

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[] B. Certain documents were previously cited by or submitted to the Office in the following prior applications, which are relied upon under 35 U.S.C. 120:

[SERIAL NO. & FILING DATE].

Applicant Identifies these documents by attaching hereto copies of the forms PTO-892 and PTO- 1449 from the files of the prior application(s) or a fresh PTO- 1449 listing these documents, and request that they be considered and made of record in accordance with 1.98(d). Per 37 CFR 1.98(d), copies of these documents need not be filed in this application.

[] 3. Document(s) _____ are not in the English language. In accordance with 1.98(c), Applicant states:

- [] An English translation of each document (or of the pertinent portions thereof), or a copy of each corresponding English-language patent or application is enclosed.
- [] A concise explanation of the relevance of document(s) _____ is found in the attached search report (see MPEP § 609 A(3)x).
- [] A concise explanation of the relevance of document(s) _____ is set forth as follows: [Insert concise explanation of relevance]
- [] A concise explanation of the relevance of document(s) _____ can be found on page(s) _____ of the specification.
- [] A concise explanation of document(s) _____ can be found on the

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attached sheet.

☐ 4. No explanation of relevance is necessary for documents in the English language (see MPEP § 609 A(3)).

☐ 5. Other information being provided for the examiner's consideration follows:

6. In accordance with 37 C.F.R. 1.97(g) and (h), the filing of this IDS should not be construed as a representation that a search has been made or that information cited is, or is considered to be, material to patentability as defined in § 1.56 (b), or that any cited document listed or attached is (or constitutes) prior art. Unless otherwise indicated, the date of publication indicated for an item is taken from the face of the item and Applicant reserves the right to prove that the date of publication is in fact different.

CROSS REFERENCE UNDER 37 C.F.R. § 1.78 TO RELATED APPLICATIONS

Pursuant to 37 C.F.R. § 1.79, Applicant notes that the above-identified patent application may be related to the following U.S. Patent Applications:

(1) U.S. Patent Application Serial No _____, filed _____.

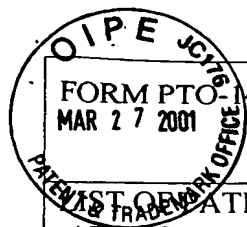
Early and favorable consideration is earnestly solicited.

Respectfully submitted,



John C. Todaro
Registration No. 36, 036
Attorney for Applicant(s)

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New York, N.Y. 10022
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|---|----------------------------------|---|
| FORM PTO-1449 (Colb) MAR 27 2001 | ATTY DOCKET NO. 6727/0I307US0 | SERIAL NUMBER 09/788,152 |
| STATEMENTS OF PATENTS AND PUBLICATIONS FOR APPLICANTS' INFORMATION DISCLOSURE STATEMENT | APPLICANT Roy EMEK et al. | RECEIVED MAR 29 2001 MAP ART UNIT Technology Center 2100 |
| | FILING DATE February 16, 2001 | |

U.S. PATENT DOCUMENTS

| Examiner's Initials | | DOCUMENT NO. | DATE | NAME | CLASS | SUB | FILING DATE |
|------------------------|----|--------------|-----------|----------------|-------|-----|----------------|
| | AA | 5,636,328 | June 1997 | Kautz et al. | 395 | 50 | |
| | AB | 5,617,510 | Apr. 1997 | Keyrouz et al. | 395 | 10 | |

FOREIGN PATENT DOCUMENTS

| | | DOCUMENT NO. | DATE | COUNTRY | CLASS | SUB | TRANS- LATION |
|--|----|--------------|------|---------|-------|-----|------------------|
| | AC | | | | | | |

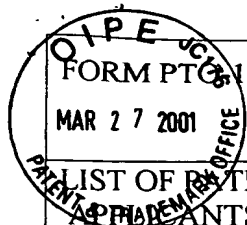
OTHER ART (Including Author, Bills, Pertinent Pages, Etc.)

| | | |
|--|----|---|
| | AD | Sabin, D. et al., "Understanding and Improving the MAC Algorithm", Constraint Programming Annual Conference, 1997, pp. 167-181, USA. |
| | AE | Bessiere, C. et al., "Using Constraint Metaknowledge to Reduce Arc Consistency Computation", <i>Artif. Intell.</i> 107(1), pp. 125-148, 1999. |
| | AF | Dechter, R. et al., "Local and Global Relational Consistency", <i>Artif. Intell.</i> 41, pp. 273-312, 1990. |
| | AG | Bessiere, C. et al., "Arc Consistency for General Constraint Networks: Preliminary Results", Proceedings IJCAI, 1997, Nagoya, Japan, pp. 398-404. |
| | AH | Bessiere, C. et al., "MAC and Combined Heuristics: Two Reasons to Forsake FC (and CBJ?) on Hard Problems", Constraint Programming Annual Conference, 1996, pp. 61-75, Cambridge. |
| | AI | Offutt, A.J., "An Integrated Automatic Test Data Generation System", <i>Journal of Systems Integration</i> , vol. 1, no. 3, November 1991, pp. 391-409, Kluwer Academic Publishers. |
| | AJ | Van Beek, P. et al., "On the Minimality and Global Consistency of Row-Convex Constraint Networks", <i>Journal of ACM</i> , vol. 42, pp. 543-561, 1995. |

EXAMINER:

DATE CONSIDERED:

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



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|---|----------------------------------|-----------------------------|
| FORM PTO 1449 (Colb) | ATTY DOCKET NO. 6727/0I307US0 | SERIAL NUMBER 09/788,152 |
| LIST OF PATENTS AND PUBLICATIONS FOR APPLICANTS' INFORMATION DISCLOSURE STATEMENT | APPLICANT Roy EMEK et al. | |
| | FILING DATE February 16, 2001 | GROUP ART UNIT N/A |

U.S. PATENT DOCUMENTS

| Examiner's Initials | | DOCUMENT NO. | DATE | NAME | CLASS | SUB | FILING DATE |
|------------------------|----|--------------|------|------|-------|-----|----------------|
| | AA | | | | | | |
| | AB | | | | | | |

FOREIGN PATENT DOCUMENTS

| | | DOCUMENT NO. | DATE | COUNTRY | CLASS | SUB | TRANS- LATION |
|--|----|--------------|------|---------|-------|-----|------------------|
| | AC | | | | | | |

OTHER ART (Including Author, Bills, Pertinent Pages, Etc.)

| | | |
|--|----|---|
| | AD | Marriott, K. et al., <u>Programming with Constraints: An Introduction</u> , Ch. 3.4, "Bounds Consistency", the MIT Press, pp. 97-109, 1999. |
| | AE | Mackworth, A., "On Reading Sketch Maps", IJCAI 1977, pp. 598-606. |
| | AF | Mackworth, A., "Consistency in Networks of Relations", <i>Artificial Intelligence</i> , vol. 8, 1977, pp. 99-118. |
| | AG | Freuder, E., "A Sufficient Condition for Backtrack-Free Search", <i>Journal of the Association for Computing Machinery</i> , vol. 29, no. 1, January 1982, pp. 24-32. |
| | AH | Lewin, D., et al., "Constraint Satisfaction for Test Program Generation", <i>Proc. of the IEEE 14th Int'l Press Conference on Computers and Communic.</i> , 1995, pp. 45-48. |
| | AI | Turton, B., "Extending Quine-McCluskey for Exclusive-Or Logic Synthesis", <i>IEEE Transactions on Education</i> , vol. 39, no. 1, February 1996, pp. 81-85. |
| | AJ | |

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